which is a Continuation-In-Part Application of Application Serial No. 08/073,384, filed June 4, 1993, now U.S. Patent No. 5,541,311, issued June 30, 1996, which is a Continuation-In-Part Application of Application Serial No. 07/986,330, filed December 7, 1992, now U.S. Patent 5,422,253, issued June 6, 1995.--

E1 cont

IN THE CLAIMS:

Please cancel Claims 108-111.

Please add the following new claims:

112. (new) A method of modifying or detecting a polynucleotide, said method comprising:

(a) providing in combination:

i) a first oligonucleotide or a molar excess of said first oligonucleotide relative to the concentration of said polynucleotide, with said first oligonucleotide having a 3' portion capable of reversibly hybridizing to said polynucleotide and a 5' portion which does not hybridize to said polynucleotide, and

E2

ii) a 5'-nuclease, and

(b) reversibly hybridizing under isothermal conditions said polynucleotide and said first oligonucleotide, wherein said first oligonucleotide, when hybridized to said polynucleotide, is cleaved by said 5'-nuclease as a result of the presence of said polynucleotide to provide: (i) a first fragment that is substantially non-hybridizable to said polynucleotide, or a first fragment including said 5' portion and no more than one nucleotide from the 5' end of said 3' portion, and (ii) a second fragment that is 3' of said first fragment with reference to said first oligonucleotide and is substantially hybridizable to said polynucleotide.

SUB F1

113. (new) The method of Claim 112, further providing a second oligonucleotide that hybridizes to a site on said polynucleotide that is 3' of the site at which said first oligonucleotide hybridizes.